



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/692,339	11/07/2003	Daniel Thomas Jones	1-24874	1978
4859	7590	03/08/2007	EXAMINER	
MACMILLAN SOBANSKI & TODD, LLC ONE MARITIME PLAZA FIFTH FLOOR 720 WATER STREET TOLEDO, OH 43604-1619			SIMONE, CATHERINE A	
			ART UNIT	PAPER NUMBER
			1772	
SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE		
3 MONTHS	03/08/2007	PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/692,339	JONES, DANIEL THOMAS	
	<b>Examiner</b>	<b>Art Unit</b>	
	Catherine Simone	1772	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 07 December 2006.
- 2a) This action is FINAL.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-8 and 18-25 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-8 and 18-25 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All    b) Some \* c) None of:
  1. Certified copies of the priority documents have been received.
  2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) <input type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date. _____
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____	5) <input type="checkbox"/> Notice of Informal Patent Application
	6) <input type="checkbox"/> Other: _____

**DETAILED ACTION**

***Withdrawn Rejections***

1. The 35 U.S.C. 112, first paragraph, rejection of claims 1-8 and 18-25 of record in the previous Office Action mailed 9/7/06, Pages 2-3, Paragraph #3 has been withdrawn due to the Applicant's amendment filed 12/7/06.
2. The 35 U.S.C. 112, second paragraph, rejection of claims 1-8 and 18-25 of record in the previous Office Action mailed 9/7/06, Page 3, Paragraph #5 has been withdrawn due to the Applicant's amendment filed 12/7/06.

***Repeated Rejections***

***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 18-20 and 23-25 are rejected under 35 U.S.C. 102(b) as being anticipated by Ness et al. (WO 00/27632).

Ness et al. disclose a multi-layered molding material comprising a layer of a fibrous reinforcement material (*Fig. 1, layers 3 and/or 4*), and a layer of a resin material (*Fig. 1, layer 2*) conjoined with the layer of fibrous reinforcement material (*see page 3, lines 14-15 and 21-24, and page 8, lines 3-4*), wherein the resin material includes a venting structure to allow gases to

Art Unit: 1772

pass out of the molding material via the reinforcement layer during processing (*see page 15, lines 8-22*). Regarding claim 19, the reinforcement layer comprises a further venting structure for allowing gases to pass out of the molding material via the reinforcement layer during processing (*see page 4, lines 19-24 and see page 15, lines 8-22*). Regarding claim 20, note the further venting structure is formed by the reinforcement material (*see page 4, lines 19-24*). Regarding claim 23, the reinforcement material is conjoined to the surface of the resin material (*see page 3, lines 14-15*). Regarding claim 24, the reinforcement material is held in place by the inherent tack of the resin material (*see page 3, lines 21-24*). Regarding claim 25, the reinforcement material is unimpregnated by the resin material or at least partially unimpregnated by the resin material to allow gases to pass out of the molding material (*see page 3, lines 23-24*).

#### ***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-8, 21 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ness et al. (WO 00/27632) in view of Rolston (US 4,238,437).

Regarding claims 1, 4, 5, 6, 21 and 22, Ness et al. disclose a multi-layered molding material comprising a layer of a fibrous reinforcement material (*Fig. 1, layers 3 and/or 4*) and a layer of a reinforcement resin material (*Fig. 1, layer 2*) conjoined with the layer of fibrous reinforcement material (*see page 3, lines 14-15 and 21-24, and page 8, lines 3-4*), the layer of

reinforcement resin material having an inherent tack that holds the fibrous reinforcement material in place (*see page 3, lines 21-24*), the reinforcement material being at least partially dry with respect to the reinforcement resin (*see page 4, lines 12-14*).

Although Ness et al. teach the reinforcement resin material having a venting structure (*see page 15, lines 17-22*), Ness et al. fail to teach the venting structure having venting channels. Additionally, Ness et al. fail to teach the resin layer being discontinuous, thereby forming the venting structure.

Rolston teaches a fiber reinforced product having a resin layer including venting channels and being discontinuous (*Fig. 3, layer 52, and see col. 4, lines 18-19 and 25-28*) for the purpose of facilitating the evacuation of air from the mold and providing escape for any air dissolved in the resin entering the mold (*see col. 1, lines 60-62*).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the applicant's invention was made to have modified the resin layer in Ness et al. to have venting channels and be discontinuous as suggested by Rolston in order to facilitate the evacuation of air from the mold and provide escape for any air dissolved in the resin entering the mold (*see col. 1, lines 60-62*).

Regarding claim 2, the reinforcement layer in Ness et al. comprises a further venting structure for allowing gases to pass out of the molding material via the reinforcement layer during processing (*see page 4, lines 19-24 and see page 15, lines 8-22*). Regarding claim 3, note in Ness et al. that the further venting structure is formed by the reinforcement material (*see page 4, lines 19-24*). Regarding claim 7, the reinforcement material in Ness et al. is unimpregnated by the resin material or is at least partially unimpregnated by the resin material to allow gases to

Art Unit: 1772

pass out of the molding material (*see page 3, lines 23-24*). Regarding claim 8, the reinforcement material in Ness et al. comprises a unidirectional reinforcement material (*see page 7, lines 27-28*).

### ***Response to Arguments***

7. Applicant's arguments filed 12/7/06 have been fully considered but they are not persuasive.

Applicant argues "the claimed molding material includes these planar air channels and has additional in-plane air channels within the resin layer. This results in an additional air permeability within this layer. In the embodiment shown in Figure 2 of the specification, the channel in the resin film also traverses connecting fibers that are adjacent to each other, resulting in improved air movement transverse to the fiber.... Significantly, the additional air channels in the claimed material provide through thickness air connection between the layers of reinforcement....in contrast, the continuous resin film in the Ness et al. material does not allow for this through thickness connection, and air has to travel along the length of the material to the vacuum source. Accordingly, the claimed molding material provides for faster and more reliable air removal than the material disclosed in the Ness et al. reference".

However, in response to applicant's argument that the Ness et al. reference fails to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., "planar air channels" and "additional in-plane air channels within the resin layer" and "through thickness air connection between the layers of reinforcement") are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations

from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Independent claim 18 clearly recites "said resin material includes a venting structure to allow gases to pass out of said molding material via the reinforcement layer during processing" and Ness et al. clearly teaches the resin material including a venting structure (see page 15, lines 17-21) as recited in claim 18.

Furthermore, Applicant argues "the Rolston reference relates to vacuum assisted resin transfer molding or vacuum assisted resin injection molding. A person having ordinary skill in the art would not consider this process to be the same as venting a prepreg material. In the process disclosed in the Rolston reference, dry reinforcements are placed into a mold....in the material of the Rolston reference, the tubes are sealed and hollow, and the fiber mat remains on the outer surface, resulting in a material that has a core structure and is not as adaptable to producing multi-ply laminates as the claimed material."

However, it is to be pointed out that the method of forming the product is not germane to the issue of patentability of the product itself. MPEP 2113. The Rolston reference was merely cited to teach a fiber reinforced article (Figure 3) having venting channels 54 formed in a resin layer 52 (*col. 4, lines 18-19 and 25-28*) for the purpose of facilitating the evacuation of air from the mold and providing escape for any air dissolved in the resin entering the mold (*see col. 1, lines 60-63*) and that it would have been obvious to one of ordinary skill in the art at the time the applicant's invention was made to have modified the resin layer in Ness et al. to have venting channels as suggested by Rolston in order to facilitate the evacuation of air from the mold and provide escape for any air dissolved in the resin entering the mold.

Applicant then argues “the material 52 in Rolston is not a resin material, but a low density filler material having longitudinal grooves that provide channels to assist resin flow following injection.”

However, as defined by the Merriam-Webster Online Dictionary, a “resin” is any of a large class of synthetic products that have some of the physical properties of natural resins but are different chemically and are used chiefly in plastics, and is any of various products made from a natural resin or a natural polymer”. In column 4, lines 19-22, Rolston discloses the material 52 to be a closed-cell plastic foam, and a closed-cell plastic foam is a resin material, as defined above.

Applicant further argues “a person having ordinary skill in the art would consider the material of the Rolston reference to be a “core” or sandwich panel material” rather than a reinforcement material. The grooves in the material are provided to assist resin flow rather than air removal. In addition, the grooves run through the length of the material, but not through the thickness of the material. In contrast, in the claimed material, substantial venting is achieved through the thickness of the material. The central ventilated structure is a resin material for subsequent impregnation of the fiber sheets”.

First of all it is to be pointed out that Ness et al. clearly teaches the reinforcement material as presently claimed in claim 1. Rolston was merely cited to teach a fiber reinforced article (Figure 3) having venting channels 54 formed in a resin layer 52 (*col. 4, lines 18-19 and 25-28*) for the purpose of facilitating the evacuation of air from the mold and providing escape for any air dissolved in the resin entering the mold (*see col. 1, lines 60-63*) and it would have been obvious to one of ordinary skill in the art at the time the applicant’s invention was made to

have modified the resin layer in Ness et al. to have venting channels as suggested by Rolston in order to facilitate the evacuation of air from the mold and provide escape for any air dissolved in the resin entering the mold. Additionally, it is to be pointed out that Rolston teaches a fiber reinforced resinous article (col. 5, lines 5-6) and the grooves in the material (channels) also facilitate the evaporation of air from the mold and provide escape for any air dissolved in the resin entering the mold (col. 1, lines 60-63). Furthermore, it is noted that the features upon which applicant relies (i.e., "grooves run through the thickness of the material" and "substantial venting is achieved through the thickness of the material") are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Thus, the claims fail to patentably define over the prior art as applied above.

### ***Conclusion***

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

Art Unit: 1772

however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Catherine Simone whose telephone number is (571) 272-1501.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Harold Pyon can be reached on (571) 272-1498. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

CAS

Catherine A. Simone  
Examiner  
Art Unit 1772  
February 22, 2007

*Nasser Ahmad*  
NASSER AHMAD  
PRIMARY EXAMINER

3/4/07